

REMARKS

The specification has been amended above to insert the serial number of the referenced co-pending patent application on pages 1 and 7.

The present application stands with its independent claims 1, 2, 3, 9, 15, 21, 27, 28, 29 and 35 rejected under 35 U.S.C. §102(e) as being anticipated by the cited Borella et al. (Borella) patent. The dependent claims have been rejected under either 35 U.S.C. §102(e) as being anticipated by Borella, or under 35 U.S.C. §103(a) over Borella in view of the cited Nessett et al. patent. For the reasons below, Borella is not believed to anticipate any of the independent claims.

Although the title of Borella is "Method and System for Distributed Network Address Translation for Mobile Network Device," what Borella describes is not "Network Address Translation (NAT)" as that term is conventionally used in the art since no address translations are performed in the network. Rather what Borella teaches is address replacement at the client and teaches away (see, column 2, line 21 – column 3, line 58) from network address translation, which would be performed by a router or other device in the network. In Borella, a first device (e.g., a client, which in the described embodiment is a mobile device) requests a range of port numbers to use in packet communication. The second device (e.g., router) allocates to that client a range of port numbers independent of any protocol, and replies to the client telling it which port numbers have been allocated to it. The client then replaces the port number it would otherwise use by one of the port numbers allocated to it by the router. When the client thereafter wants sends a packet, that packet is encapsulated within another IP packet wherein in the internal IP packet, the source address is one of the global IP addresses allocated to it by the router and the destination address is the address on the Internet to which the packet is directed. In the external packet,

the source address is the actual local address of the client and the destination IP address is the local IP address of the router. When the encapsulated packet arrives at the router, it strips off the external packet and forwards the rest of the internal packet onto the Internet to the destination address indicated in the encapsulated packet. When the router receives a packet from the destination, the router consults its Port Allocation Protocol (PAP) table to determine which client has been allocated that global port number to which the packet is addressed, and forwards the packet accordingly to that client. Thus, for packets coming to the router from the client or for packets coming through the router and directed to the client, there is no "IP address and GPN translation."

Since there is no translation of one address to another in the network, but merely replacement by the client in a packet it wants to send of its own source address with one of the global addresses supplied to it by the router and then encapsulation of the packet, what Borella discloses is not a network address translation as is used and claimed by applicants.

Most significantly, Borella is incapable of accommodating an unspecified and unsupported protocol of which the router is unaware. In Borella, it is assumed that the client can abstractly request a port number from the router and that the router will supply a port that it can use. There is no suggestion or teaching of how the router would be able to properly function with an unsupported protocol. Specifically, with an unsupported protocol the router would need to know where in the packet the destination port number could be found. If the protocol being used to transmit a packet is supported, then the router knows that information. If it is an unsupported protocol, then the router has no way of knowing where within the packet that port number is located. Thus, if the router in Borella assumes in an incoming packet that the destination port number is located in same position as it is in a TCP packet, but the packet is

using, for example, an unsupported ISAKMP protocol for which the destination port number is located in a different location within the packet, the router will interpret the incorrect bits as being the port number. When the router in Borella consults then its Port Allocation Protocol table, it will be unable to find which client has been allocated to that port number, or alternatively, it will associate the packet with the wrong client. Thus, absent that location information, Borella is incapable of properly directing packets that use an unsupported protocol to the proper client. Thus, Borella is neither a “network address translator” nor is it capable of handling “a protocol not directly supported”, both of which each of the independent claims of the present invention require.

Significantly, since in Borella the router does not perform a network address translation and cannot function with an unsupported protocol, there are no functions to be performed at the client, the mobile device in Borella, “of an Application Layer Gateway (ALG) that need to be implemented in association with the NAT's translation” on either incoming or outgoing packets, as per independent claims 1, 2, 27 and 28 of the present application. Furthermore, since the router in Borella doesn’t perform any IP address and port translations on each outgoing packet from the client, which arrives at the router encapsulated within an outer packet and which inner packet is sent onto the network unchanged, no modification is performed on the packet at the client “so as to pre-compensate for the effects on the packets of the IP address and GPN translations,” which translations are not made by the router. Similarly, since the router in Borella doesn’t perform any IP address and port translations on a packet it receives from the network that is directed to the client, but merely forwards the packet unchanged to the client to which it has assigned the global port number included in the packet, the client, when it receives a packet doesn’t modify it “so as to post-compensate for the effects on the packets of the IP

address and GPN translations," which translations are not made by the router. Thus, there is no need to perform any pre or post compensation on the encapsulated packet for any translations on that packet, which in any event, are not performed by the router in Borella, and cannot be performed in Borella for an unsupported protocol. Furthermore, since the router in Borella cannot function for an unsupported protocol because it will not know where within a packet the port number is located, the router can perform no compensation on packets arriving from or directed to the client. The recitations in independent claims 3, 9, 15, 21, 29 and 35 that recite "the packets being modified (at the client) so as to pre-compensate (or post-compensate) for the effects on the packets of the IP address and GPN translations" (by the NAT), in conjunction with "a protocol not directly supported by a network address translation" clearly distinguish these claims from Borella.

In summary, Borella does not perform network address translation and in fact teaches away from it; is not capable of handling an unsupported protocol; does not teach performing the "functions of an ALG that need to be implemented in association with the NAT's translations"; and does not modify at a client packets "so as to pre-compensate (or post compensate) for the effects on the packets of the IP address and GPN translations" (by a NAT). For these reasons, it is respectfully submitted that none of the independent claims are anticipated by or obvious over Borella and are therefore allowable.

Inasmuch as the independent claims are believed to be allowable, each of the dependent claims thereon should also be allowable.

In view of the foregoing, allowance of all the claims presently in the application and passage to issue of the subject application is respectfully requested. If the Examiner should feel that the application is not yet in a

condition for allowance and that a telephone interview would be useful, he is invited to contact applicants' undersigned attorney at 973, 386-8252.

Respectfully submitted,

Jose' C. Brustoloni
Juan A. Garay

By


Stephen M. Gurey
Attorney for Applicants
Reg. No.: 27336

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Docket Administrator (Room 3J-219)
Lucent Technologies Inc.
101 Crawfords Corner Road
Room 3J-219
Holmdel, New Jersey 07733-3030